



A Basic

## Guide To The Varieties Of Magnetic Pots

Magnets play a highly important role in our daily lives. While we may not realise it, magnets are everywhere. From children's toys and display cabinets in our homes to the computer systems and machinery in our work environments, most modern equipment and objects rely on magnets to complete processes and functions.

Magnetic pots are relatively small, no thicker than its own width. Also known as disc magnets and cup magnets, these are naturally high-performance magnets with exceptional coercive force. Disc magnets are used in a variety of applications from simple jewellery clasps and cabinet door closures to hard disk drives and industrial-strength machinery. The list below describes the varieties of cup magnets available in today's market.

### Ferrite

Anti-corrosive, chip-resistant and high operating temperature makes Ferrite disc magnets very versatile and ideal for industrial applications. Refrigerators, microwave ovens, electronic devices, electric motors, electrical components such as inductors and transformers all use Ferrite disc magnets for its high electrical resistant properties. Ferrite disc magnets are manufactured in countersunk, eye screw, screw and hook styles to fit its many uses.

### NDFEB

NDFEB, or Neodymium magnets, are the most popular rare-earth magnets, compounded using neodymium, iron and boron. These disc magnets have the highest coercive properties and are the strongest magnets available for commercial purposes. On its own, neodymium magnets have

a weak point, which is they are susceptible to corrosion. This problem is usually solved during manufacturing by coating the magnets with layers of other metals such as nickel or copper.

Modern technological equipment requiring strong magnets for ultimate performance rely on NDFEB magnets for efficient operation. Magnetic resonance imaging (MRI) machines, door locks, headphones and speakers, electric motors and turbines, magnetic bearings and couplings, computer HDD head actuators and even e-cigarette switches use NDFEB disc magnets.

### Alnico

Alnico is an acronym, standing for aluminium, nickel and cobalt. The compound was the strongest permanent magnet available before the discovery of rare earth magnets such as the neodymium and samarium-cobalt. These magnemagnetic potsts can also be combined with copper or titanium for extra reinforcement during the manufacturing process. Alnico is highly coercive, anti-corrosive and electrically-conducive and can be heavily magnetised to create large magnetic fields. They also have a high Curie temperature, which means it takes very high heat to deactivate its magnetic properties.

Microphones, sensors, electrical music equipment, electrical motors and children's toys commonly use Alnico. One of the most popularly seen applications of Alnico magnets is in the manufacturing of horseshoe magnets.

### SMCO

Ranked similarly to neodymium magnets in strength, samarium-cobalt (SMCO) magnets are developed from an alloy of samarium and cobalt. The SMCO magnets are higher in coercivity and has a better Curie temperature in comparison to NDFEB magnets. These positive properties are somewhat marred by the samarium-cobalt magnet's brittleness and tendency to chip and crack easily.

Regardless of its negative attributes, slotcar racing uses SMCO magnets in their electrical

motors. Other applications of samarium-cobalt magnets include turbomachinery, cryogenic equipment, electrical guitar pickups and benchtop nuclear magnetic resonance (NMR) spectrometers.

The use of [magnetic pots](#) are widely varied in today's commercial world and you'll be hard-pressed to find any machinery or equipment without some type of disc magnet in them to create their functional efficiency.